

## Research program of the research unit "Cultural Sources of Newness"

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## **WZB – discussion paper**

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Lutz Marz, Janet Merkel, Sophie Mützel, Maria Oppen,  
Nona Schulte-Römer, Holger Straßheim

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SP III 2010-405

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“Cultural Sources of Newness”**

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## **Zusammenfassung**

Im ersten Teil wird das Forschungsprogramm der Abteilung „Kulturelle Quellen von Neuheit“ entwickelt, im zweiten Teil folgen kurze Beschreibungen von insgesamt neun Projekten.

Neuheit, so die zugrundeliegende Annahme des Forschungsprogramms, bildet den Kern von Innovationen und entsteht aus kulturellen Quellen, die als kulturelle Konfigurationen analysiert werden. Die Relevanz dieser kulturellen Konstellationen für das Innovationsgeschehen – im Unterschied zu technischen oder politischen Aspekten – ist der Gegenstand der Forschung. Dabei gelten drei Prozesse als entscheidend für die Qualität und Anschlussfähigkeit von Innovationen: 1) die ständige Variation kultureller Selbstverständlichkeiten, 2) Prozesse der Bewertung als Neuheit und 3) Spannungszustände, die in und zwischen Kulturen auftreten. Das Zusammenspiel dieser drei Prozesse, so die These, bestimmt das Spektrum und die Reichweite der Innovationen. Die empirischen Felder des Forschungsprogramms sind aus der räumlichen, interaktiven und zeitlichen Dimensionierung kultureller Konfigurationen hergeleitet. In jedem der Felder untersuchen die Projekte Phänomene unterschiedlicher Größenordnung.

## **Abstract**

In this discussion paper the program of the Research Unit “Cultural Sources of Newness” is presented. Short descriptions of currently nine projects follow.

The assumption driving the research program is that newness lies at the core of innovations and emerges in cultural sources, which are analyzed as cultural configurations. The research focuses on the relevance of these cultural constellations rather than on technical or political aspects. Three kinds of processes are identified as being decisive for innovations: 1) the continuous variation of cultural forms and practices; 2) the evaluation of newness; 3) the states of tension that arise within and between cultures. The research program assumes that the interplay of these three processes determines the spectrum and spread of successful innovations. The program is organized in three empirical strands. The strands cover the spatial, interactive and temporal dimensions of cultural configurations, and the projects focus on phenomena of different orders of magnitude.



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## A. Three theses on innovation research

Although the speed at which change takes place is subject to different assessments, there appears to be a societal consensus that innovations are essential to the competitiveness and future viability of economic organizations and sectors, cities, and regions. Actors from the spheres of politics, business and civil society seek to promote the potential for creativity and to support innovations to achieve a breakthrough. These initiatives are accompanied by increasingly wide-ranging innovation research.

The research program of the WZB Research Unit “Cultural Sources of Newness” challenges conventional approaches to innovation research in three ways:

- (1) Our thesis is that innovation in society is not only driven by technical and technological conditions but also by cultural configurations associated with forms of propinquity, collaboration and communication that surround innovation processes. We assume that there are constellations which enable or hinder the emergence of innovations in everyday cultures based on propinquity (organizational, urban, scene-based culture) and on certain forms of meaning (in particular spiritual and artistic cultures). Such constellations might operate within the microstructures of families, neighborhoods or organizations or in the macrostructures of society, such as global art or entertainment scenes.
- (2) The attribution of “newness” is itself a cultural valuation process which, according to our thesis, determines innovation along with the other constellations. The concept of newness highlights the fact that innovations are neither obvious nor attributable to individual creativity.
- (3) Causality does not provide an adequate explanation for the modes of action whereby cultural configurations influence novelty. Cultural sources do not necessarily give rise to newness but rather create opportunities that are recognized and acted upon by people, who are then deemed creative.

These three theses will be examined through systematic comparisons within and between the research projects in the Research Unit. The successful substantiation of the theses should have consequences for innovation policy and for the economic and social-science modeling of innovation processes, cultural policy, and the cultural economy. The research program also aims at making a methodological contribution for the study of social phenomena like newness and innovation.

To be able to explore the field of investigation systematically, the Research Unit's program identifies three empirical research fields along the spatial, temporal, and interactive dimensions of cultural configurations. The topics examined include the urban embeddedness of architectural and design practices (spatial dimension), temporary artistic interventions within organizations, the historical co-evolution of product markets and artistic styles (temporal dimension), and cultural configurations in large innovation alliances and small social formations (interactive dimension). Material is collected in the form of interviews, observations and documents, images and films. The Research Unit's shared research strategy consists in a comparative case-study approach predominantly using qualitative methods.



## B. The research program

### 1. Culture in Innovation Research

#### 1.1 *The principles of innovation research*

Few topics have attracted as much attention from scientists, managers, and politicians in recent times as innovation. The innovation capacity of society and its institutions is seen as the key to competitiveness and societal prosperity. The importance of the topic of innovation is also reflected in the diversity of approaches.

Innovation research initially emerged after 1960 in the context of economics and political economy, and it took a macro-perspective (Fagerberg/Verspagen 2009). Economic theories explained innovations using aggregated parameters such as the “rate of technical progress”, on the basis of systematic differences between national industries and organizations, and through investment in research and development (e.g. Arrow 1962; Nelson 1993). The research by J.A. Schumpeter was rediscovered in the 1980s and continues to stimulate thinking to this day. In *The Theory of Economic Development* (1934, first published in German in 1911), Schumpeter argued for the first time that innovations are engines of economic development precisely because they disrupt the stationary equilibrium of the economy. Hence, the source of innovation is entrepreneurial action, in the course of which new products are invented in a creative – that is hitherto unknown – way, and the markets for the new products disrupt the existing markets (Dosi 1988; Schumpeter 1939, 1942).

Over the past two decades the debate on national innovation systems (Freeman 1995, OECD 2002) has been broadened by research on the role of regional economies and their special capacity to produce innovations (e.g. Saxenian 1991). Studies on innovation (e.g. Cohen/Levinthal 1990) in or between companies and organizations (e.g. Powell/Koput/Smith-Doerr 1996) have adopted a mesoperspective.

Sociological research on the emergence of innovations is mainly found in the sociologies of technology, knowledge, and art. This work can be located on the meso and micro levels. Studies on the social construction of technology (e.g. Bijker/Hughes/Pinch 1989; Rammert 1993, 2000) query the concept of the individual inventor-genius and refer to the co-construction of a technological development by many different actors. Scholars using actor-network theory have succeeded in showing how human and non-human actors come together to create new things – or not (e.g. Callon 1986, 1989; Garud/Karloe 2003; Latour 1988, 1996). Sociologists of art have demonstrated that the emergence of a new work of art (Becker 1974, 1984) or a new artistic style (White/White 1965) is a collaborative process which is shaped and facilitated by many different actors.

There is no agreement in the literature on a basic definition of innovation. One definition, according to which innovation is “the search for, and the discovery, experimentation, development, imitation and adaptation of new products, new production processes and new organizational set-ups” (Dosi 1988: 222), reflects the economic modeling of production processes. With the constructed character of the social in mind, sociologists describe innovations as “material and symbolic artifacts, which observers perceive as innovative and experience as an improvement on what already exists” (Braun-Thürmann 2005: 5). Other studies view innovations as the creation and implementation of new ideas (Van de Ven 2009), which can arise from very different processes.

However, innovations do not necessarily involve new technologies; they may also be new products, processes, or institutions. Hence the attempts made in the late 1980s to find solutions for socially relevant problems under the heading of “social innovation” (Zapf 1989).

## **1.2 Innovation and culture**

Innovation research also refers to fundamental cultural processes which play a leading role in the emergence of innovation. At least five different approaches can be identified which are of relevance to the Research Unit’s program.

First, macro-economic studies on national and regional innovation systems use indicators on industrial and educational institutions or work with the psychology-based cultural concept of “mental programming” (Hofstede 1984) to explain the differences in the willingness of entire nations (e.g. Blättel-Mink 2005, 2006) or regions (e.g. Braczyk/Cooke/Heidenreich 1998) to invest or engage in risk. Economic history approaches address culture on the level of fundamental values (Jones 1987, 2000). Others focus attention on the fact that demand that generates innovation has repeatedly been culturally motivated (Schmookler 1966). Some studies on the diffusion of innovations have found that culture plays a role in determining which new ideas receive recognition as a generally acceptable innovation (Rogers 1995).

In the literature on regional economies (e.g. Saxenian 1994), which has been expanding since the 1990s, culture refers to the embedded tacit knowledge on local institutions, relevant actors, practices, and unwritten rules (OECD 2002). Studies on the genesis of technologies also focus on cultural dispositions in the context of the emergence of technological innovations, and examine the practices of those involved in the innovation process (e.g. Hofmann 1996; Dierkes 1997). In addition, research on corporate culture identifies the shared understandings and practices which are necessary for the emergence of innovation and learning (e.g. Dierkes/Rosenstiel/Steger 1993). And research on organizational learning has underlined the cultural and structural barriers in and around organizations (e.g. Berthoin Antal/Lenhardt/Rosenbrock 2001).

Other microsociological studies on the role of culture in mostly technological and scientific innovation processes focus on various kinds of collaborative cultures, for example laboratory communities (Latour/Woolgar 1986), epistemic cultures (Knorr Cetina 1999), and communities of practice (Brown/Duguid 1991). All of these cultures promote the exchange and generation of knowledge and, hence also, emergence of the new. Such research highlights that the exchange of knowledge and making of decisions, which may be crucial to the further development of an innovation, takes place in local and situated arrangements (Abbott 2007; Kaufman 2004). Cultural understandings in this sense are not necessarily equally distributed across entire social entities (Hannerz 1992).

Two other streams of research focus on innovations in the field of art. These are of particular importance to the Research Unit’s program because artistic and aesthetic innovation involves forms of societal reflexivity based on inherent symbolic languages. As a result, they elaborate alternatives for cultural identification, which then find their expression in high, popular and sub cultures. The cultural production approach investigates the conditions under which new artistic works and their institutions are created (Peterson 1976; Peterson/Anand 2004). Technologies, legislation, industry structure, artistic careers, and market processes are the main dimensions taken

into consideration in analyses on various art forms, for example musical genres and literature, and on cultural institutions, such as museums.

Yet another perspective developed during the 1990s explores the socio-material mediation of cultural products (e.g. Hennion 2001, 2007). In contrast to the cultural production approach, this approach is not concerned with the social conditions for the creation of cultural products but with the complexes of gestures, bodies, habits, materialities, spaces, languages, and institutions, in which cultural products are formed and through which they can exist in the first place. The focus here is also on artistic innovations.

The approaches to innovation and culture outlined here involve two fundamentally different perspectives. While economists and economic sociologists have increasingly incorporated the role of cultural factors in the emergence of science and technology-based innovations, other scholars have been exploring cultural products such as artistic works as forms of innovation depending on social structures, organizations and institutions for artistic creativity and production. Up to now, these two lines of research have been pursued largely independently of each other. The Research Unit's program is conceived as a first step towards linking them systematically.

## **2. Cultural Sources of Newness**

The Research Unit's program focuses on the emergence of newness. Two factors play a crucial role in the shift away from approaches based on innovation theory. First, the lowest common denominator in the varying definitions of innovation the core concern with "the new" (or newness) and "new things" (or novelties). Second, innovation research specifically examines the implementation and economic exploitation of the new (Kirchhoff/Walsh 2000; Roberts 1987) without studying separately the conditions of its emergence. Both the widespread reduction of innovation to economically valued inventions and the uncontested core of innovative activity, i.e. the new, speak for the idea of making newness itself into the object of the research.

The shift in interest from questions of innovation to questions of newness enables the investigation of the conditions behind the emergence of newness. The fact that this is no easy undertaking is demonstrated by theoretical reflections on the "new", which range from Hegel's dialectics to the ternary logic (Günther 1971) and cultural-critical discourses that take up the theme of newness (Groys 1992; Thompson 1979).

### **2.1 *The concept of newness***

We understand newness as a concept denoting events, products, ideas, technologies, works of art, and processes of collaboration or coordination that have an irritating impact when they occur. This working definition incorporates at least two problem fields which can lead to a more differentiated understanding of newness and novelty.

On the one hand, an object or practice becomes a novelty on the basis that it opens up new possibilities (cf. Barry 1999). The concern here is not only with the novelty of the objects or processes themselves, but also with the novelty of the references, within which new objects attract attention

and are defined. Hence every event, product, or object can be defined simultaneously as a novelty and non-novelty, depending on the conceptual frame and the socio-technical networks of practices and actors, within which it is observed (Suchman/Danyi/Watts 2008). A new artistic style, new daily headlines, or a new medical treatment can be observed, for example, as non-new or unsurprising phenomena when considered and evaluated in relation to their relevant production systems.

On the other hand, the proposed definition also refers to *newness* as a quality, through which the value of an object is increased. The attribution of newness usually arises in association with positively valued qualities, often supported by the inclusion of criteria such as originality, progress, or truth. From a historical perspective, the positive treatment and appreciation of newness can be described as a consequence of the functional differentiation of modern society. Religion, the political system, science, business, and art not only display different degrees of receptivity to novelties, they also react to it at different speeds (Luhmann 1999b).

The appreciation of newness can be observed, in particular, in the field of fine art towards the end of the 19<sup>th</sup> century (Hughes 1971). The establishment of the idea that the value of works of art arises from the special skill of the artist and the privileging of the original over the copy, channeled attention to new works of art. The associated appreciation of newness also abandoned the idea of the work of art as a representation of reality and therefore highlighted the self-referentiality of art (Luhmann 1999b). Hence, newness assumed a key position within the art system both in the sense of a product (novelty) and in the sense of an evaluation criterion (newness).

The central place occupied by the new, in the dual sense of “novelty” and “newness”, is now also obvious in other areas of society. For example, in the mass media and in all other sectors of creative industry, products, news, advertising and entertainment are launched and simultaneously loaded and communicated with the quality of newness (e.g. Farías 2009; Hutter 2006).

Newness plays an increasingly significant role in the field of science and technology. There is a permanent quest in these fields for new scientific insights and technological inventions, which are only deemed to be novelties if they extend or transform technological and scientific paradigms (Schummer, forthcoming). In addition, technical objects and scientific facts achieve visibility and value by being marked as “new”, thereby providing orientation to users.

The interpretation of the concept of newness in terms of both novelty and newness calls into question the usual explanatory models for the emergence of the new which are either based on the creativity of the individual as a mental skill, or equate newness and progress. Novelties are often interpreted as the pioneering achievements of geniuses (or the insane), and newness is automatically associated with evolutionary achievements. To understand the emergence and effects of newness, more complex explanations are necessary.

The Research Unit's program links the emergence and appreciation of newness with cultural contexts. This raises the question as to how cultural contexts can be separated from other factors analytically. The definitions and differentiations that have been developed for this purpose are explained in the next section.

## 2.2 The concept of culture

The qualities that characterize the concept of culture as it is known today is already suggested in the Latin roots of the word, i.e. *cultura* and *colere*: by cultivating, processing, refining, honoring or celebrating, humans leave behind the natural state and oppose the transitory with the constant, chaos with order, the strange with the familiar (Böhme 1996; Luhmann 1999a). However, the term was originally only related to particular contexts as in agriculture. Not until the modern age did the concept gain flexibility, first as a status feature and then, in the 18<sup>th</sup> century, in the comparison of culture and civilization within the European societies (Eagleton 2000). In the 19<sup>th</sup> century, the concept of culture also incorporated normative decision-making criteria to characterize ethnic groups, nations and communities. In the 20<sup>th</sup> century, these restrictions were almost completely abandoned in favor of a functional understanding of culture as a sub-system of modern society (Parsons/Shils 1951).

In the course of various “cultural turns” (e.g. Bachmann-Medick 2006), “cultural studies” assumed relevance again for the social sciences. The theoretical and methodological considerations raised in this context offer valuable approaches for the investigation of novelty. Thus, for example, the issues of cultural autonomous logic or the transformational power of everyday practices, ethics and aesthetics suggest that these should be considered as distinct triggers of societal change and newness (e.g. Müller 1994; Berking/Löw 2008; Löw 2008). Meaning-oriented cultural perspectives also direct attention to cultural change and try to show how at certain points in time “very specific cultural practices and discourses have enabled and forced subsequent developments” (Reckwitz 2008: 35, our translation). While unanimity exists that culture has the potential to trigger societal change, the conceptual understanding of culture remains controversial (Alexander 1990; Sewell Jr. 2005).

Cultural research faces the epistemological problem of the “blind spot”. Since every observation arises from a specific cultural standpoint, scientific analysis always represents a cultural practice or cultural technique (Macho 2008): “Everything one does and says can be observed in two ways: as a simple operation (on the level of the first order) and as a cultural phenomenon (on the level of the second order) – and becomes as a result inevitably contingent” (Esposito/Corti 2002: 245). “Cultural reflection” refers to a theoretical position from which culture can be successfully studied on a comparative basis (Baecker/Kettner/Rustemeyer 2008).

Against this background we understand culture as compressed interaction or communication processes that reproduce themselves through shared practices, semantics, divided convictions, knowledge bases and assignments of meaning. Cultures resemble temporary compromises (Wimmer 1996). They mediate a shared understanding about practices and semantics that lasts or is transformed. Furthermore, we assume that cultures not only overlap in social interaction contexts, but that they also display different degrees of consolidation and stabilization. Hence, people move within cultures that are binding, enduring or stable to varying degrees and can only be observed or articulated from or through their boundaries. Matters of course shared by individuals are separated from those of other cultures through distinctions. The differentiations made in the process enable comparison and reflection about own, other, or foreign cultures (Bourdieu 1982; Lamont/Molnar 2002; Wimmer 2008).

The result is a dynamic interaction of horizons of meaning, which are familiar to and shared by the participating actors to varying extents (Becker 1974), and are available to them as action and expression repertoires (Swidler 1986). Whether cultures motivate social interaction as the action theory perspective suggests or whether they stabilize contexts enabling comprehension as com-

munications-theories argue remains an open question. The relationship between culture and social structures or systems forms part of our research question and is dealt with by the individual projects in the program on the basis of concrete empirical findings.

In order to be able to study culture, we have chosen the analytical construct of the cultural configuration for our empirical observations. This construct makes patterns of interaction identifiable in time and space in that it records observable concentrations of interaction and communication processes. The notion of cultural configurations enables situative descriptions of cultures, for example in cities, networks, or projects. Cultural configurations are specified by characteristics concerning the different forms of expression of cultures. Those characteristics depend on the object observed. Accordingly, they relate to spatial, interactive, and temporal conditions/data and are indicative of different cultures, for example epistemic cultures (Knorr Cetina 1999), specific man-technology relations (Latour 2005), or everyday cultural webs of meaning (Geertz 1973).

The construct of the cultural configuration provides an analytical frame for the individual projects, enabling them to determine both cultural changes over the course of time in a culture to be observed and differences between cultures. The methods, with which cultures are empirically examined and described in the Research Unit's projects varies depending on the object and field of research in question.

### **2.3 Cultural sources**

The concept of "sources" is generally used to refer to a potential of resources that are available and must be actively accessed before they can become valuable and effective in the production of newness. We use this notion by suggesting that newness arises in cultural contexts that are structured in multiple ways: first, cultural configurations produce variations which inevitably arise from the continuous repetition of practices and semantics; second, variations constantly undergo selective evaluation processes which can change, leading to the ascertainment of newness in matters that remained hitherto unnoted; third, the likelihood with which variations and re-valuation processes arise is altered significantly when 'states of tension' arise in cultural configurations. We understand these three processes as cultural sources of newness, whose interactions determine the spectrum and scope of the novelties that emerge in society and the economy in the long term.

This initial thesis combines research on cultural processes and the assessment of newness, and highlights the significance of states of tension in and between cultural configurations. The research program postulates three ideal types of states of tension, namely, secession, combination, and confrontation. Three projects of the Research Unit serve here to illustrate these states of tension.

Secession is the process by which one culture, understood as a concentration of interaction and communication processes, differentiates itself from other cultures. As a result interaction and communication processes occur in new cultural configurations, from which irritating variants of artifacts, things or structures arise, which are perceived as new. The project "Small social groupings and the emergence of newness" is based on the hypothesis that deviations which lead to newness require the emergence of small groupings, that is the secession of a new social forma-

tion. The open concept of “groupings” allows an unbiased look at innovative groups and network structures.

Combination focuses on collisions among different cultures and how this might generate novelties. The process can unfold on a friendly or hostile basis; it can take the form of interaction or it can arise as one-sided appropriation and imitation, or as experimentation with semantics and practices from the “foreign” culture. According to our thesis, the likelihood that new variations will arise and be used increases as a result. Initial findings from the project “Forums for new design practices. The transformation of concepts of work and production”, which explores experimental forms of cooperation in product design, reveal the key position of the interaction between different actors in projects and events that may be assessed as innovative. These exhibit forum-like cultural configurations and enable existing knowledge and expertise to be combined in new ways.

The concept of confrontation describes how changes in natural or social environments of certain cultures lead to irritations and controversies, which force the search and adoption of new conventions and new solutions. Such confrontation can be observed in the project “The co-evolution of economy and art”, which focuses on how art and economy have irritated each other from the early days of the Renaissance to the present day, giving rise to internal variations in the relevant semantics and practices. The findings of this project show that the cultures that are observed in the economic and art system not only co-exist but react to each other in a co-evolutionary relationship.

The complex connections between the changing characteristics of cultural configurations, the evaluation of variations as newness, and the intensification of these processes through states of tension restrain us from making statements on causal relations. Instead, we expect to obtain information about the likelihood with which patterns of newness arise and about the conditions under which they are recognized and hence become effective and valuable as cultural sources (Abbott 1997).

## ***2.4 Cultural dimensions***

Cultural configurations represent patterns of interaction in time and space. To obtain systematic access to the broad research field, we differentiate between three basic dimensions which are, applied in the Research Unit’s projects.

The spatial dimension includes material, cognitive and symbolic processes leading to the generation of space in the form of cities, locations or infrastructures. Socio-material practices and semantics are keys to the generation and appropriation of spaces which, in turn, influence human activities and their distributed creative capacities. Likewise, boundary-making processes play a major role, as they define varying degrees of openness and closedness. In the project “Studio life and newness: Distributed creativity and evaluation regimes in the cultural and creative economy” artists’ studios and architects’ offices are compared on the basis of connections between spatial formations, sociotechnical configuration of creative processes and the emergence of newness. From that perspective, the influence of certain urban spaces and scenes on the emergence of newness is discussed as prefigured by the inherent dynamics of the studio.

The interactive dimension focuses on what goes on between individual actors as mediated through semantics or practices. The contacts may be close or distant and consist of small or larger groupings. The cultures of teams, organizations, networks and other social formations can be observed in particular from this perspective. The project “Valorization alliances and valorization agencies” studies the role of actor networks in the societal assessment of new car drive systems. The study shows the central significance of a valorization alliance with actors from business, politics, science, and media, which promote, pool or hinder technological interventions in Germany through valorization agencies.

The temporal dimension focuses on the horizons along which semantics and practices proceed, consolidate, differentiate, or disappear. With internal events and external samples, the time horizons can be short (days or months), with internal myths and external historical reconstructions they can be long (years or centuries). The project “Artistic interventions in organizations” studies the effects of temporally limited encounters and collaborations between artists and employees of organizations. The project seeks to understand the impacts at the individual, group and organizational level, as well as the connections between these levels over time.

The characteristics of the cultural configurations examined in the context of the program include all three basic dimensions. By first highlighting one of the dimensions and then relating the other two to it, it is possible to examine the nature of the cultural configurations and sources of newness in greater detail. In each dimension, two projects are tailored to opposing poles of the dimension in question.

The following matrix illustrates the positioning of the six original projects in the Research Program according to the conceptual dimensions. The concepts contained in the matrix are based on the project contexts and characterize the relevant dominant dimensions and the attribution to the big/small, close/distant, or short/long scale within the cultural configurations studied.

<b>Spatial dimension</b>	1.1 Studio	1.2 Forum
<b>Interactive dimension</b>	2.1 Grouping	2.2 Alliance
<b>Temporal dimension</b>	3.1 Intervention	3.2 Co-evolution

Based on comparisons of the findings of the projects with their different specialized perspectives, we aim, in a second program phase, to explore which variations, evaluations, tensions that appear to play a particularly strong role in promoting or hindering the success of innovations.



### **3. Research Type and Methods**

#### **3.1 *Research type***

The Research Unit's program approaches innovation research from the perspective of "newness" and its "cultural sources". It combines traditional concepts with new conceptual contexts and questions. As noted in the brief literature review above, "newness" and "cultural sources" appear in all disciplines involved in studying the interaction between society and economic dynamics, but they have hitherto led a rather peripheral existence. Hence, theoretical approaches and results can be adopted from these disciplines, and methodological elements can be borrowed and recombined.

The development of a multidisciplinary research perspective draws on various strands of literature ranging from cultural and economic sociology to cultural and evolutionary economics and to organizational sociology. The multidisciplinary composition of the Research Unit provides a promising point of departure for the establishment of jointly developed conceptual tools. Such an undertaking is by nature risky and requires the willingness of all to invest in the intellectual venture. However, the positioning of the program between the disciplines opens up opportunities to build bridges between bodies of knowledge and to widen the range of people and institutions interested in the research findings.

The implementation of the research program depends on insights from different cultural areas; this is crucial with regard to the central focus on "cultural sources". Organizational, ethnic, or national specificities are understood here as cultural configurations which can be activated or deactivated on a situational basis, rather than as essential features of groups. The international nature of the research perspective is not rooted, therefore, in a traditional comparative perspective. For example, several research projects entail case studies taken from different countries and their research designs are oriented at making comparisons, albeit without placing national specificities or cultures at the center of the research. Even if units of analysis in individual cases are restricted to one country, the projects involve transnationally relevant developments and phenomena and their local manifestations.

#### **3.2 *Research strategy***

The Research Unit's methodological common denominator lies in the adoption of the case study approach, or to be more precise a multiple case study approach (Yin 1994). Case-study-based research designs are particularly suitable when a program sets out to examine a complex research phenomenon, such as the emergence of newness from cultural sources in its multidimensional social and cultural context, and when the boundary between the phenomenon and context is not immediately obvious. This primarily qualitative approach is understood in the context of the research program as a research strategy which, depending on the project design, can incorporate different forms of data surveying, evaluation, and analysis, in some cases even including quantitative surveys and network-analysis processes. The range of methodological approaches adopted in the individual projects extends from experiments to ethnographies, interviews, process-generated documents and databases, and histographic processes. In some research projects the empirical data base used for the description and analysis of a case study consists not only of written documents (interview transcripts, observation reports, the researchers' own descriptions, statis-

tics, time series etc.), but also visualizations in the form of images, films or presentations/performances. So beyond our interest in visualizations as a research object, these are also used as research tools (Savage 2009).

The units of analysis vary, in part considerably, according to the research questions and areas. In several of the projects, these take the form of collaborative composite structure of one type or another (smaller or bigger, loosely or tightly linked, spatially rooted or virtual). For example, artistic products and performances, including their perception and processing into (sub)audiences, are considered here as equivalent cases.

Hence, the question arises as to the precise nature of the comparisons we are dealing with here. A distinction is made in the literature between two basic forms of comparison, i.e. explorative vs. explanatory (Yin 1994), or descriptive interpretation vs. explanation (Mayntz 2002). The design of some of the Research Unit's projects is aimed at testing hypotheses through systematically designed case comparisons; it would be possible to refer here to case comparisons as a method (Lijphart 1975). In the majority of research projects, the emphasis is placed on processes that tend to generate explorative hypotheses. Therefore, the specific nature of the first phase of the Research Unit's program lies more in the comparative perspective. The focus is more on discovery than the confirmation of suspected links.

### **3.3 Pattern recognition**

This research strategy has consequences for the type of generalization the program aims to achieve in an explorative case-study approach. We adopt the latest currents in the methodological debate which abandon generalization models based on explanatory rationalism in favor of a "naturalistic generalization" (Stake 1978), a "complexity modeling" (Law/Urry 2004), or a "descriptive assemblage" (Savage 2009). Similar to contemporary complexity theory, in which emerging characteristics of non-linear systems are only modeled but not predicted (Prigogine 1997), the projects' research designs aim at empirically observing complex cultural configurations and at modeling their regularities in their specific contexts.

Accordingly, the aim of our research program is to incorporate *ceteris paribus* conditions as a research objective, rather than to identify causal relationships between two or more variables and formulating if-then statements under *ceteris paribus* conditions. Researchers tend to focus on a limited number of units of analysis with multiple relevant characteristics and features. However, the units might be connected to each other in multiple ways, so they cannot be dealt with as isolated variables. The nature of their functioning can only become visible "if entire patterns of connected relationships are viewed together as a unit" (Mayntz 1997: 309). The analytical challenge is one of pattern recognition and the systematization of these patterns on the basis of certain rules and basic assumptions (Savage/Burrows 2007). Therefore, our findings rely on intersubjective understandings emerging from the research process. Instead of claiming abstract-logical generalization, the findings can be validly generalized to a clearly defined field of application (Abbott 2004; Savage 2009).

## C. Project descriptions

### Research field 1: Newness and creative spaces

#### Project 1.1: Studio life and newness: Distributed creativity and valuation regimes in the creative economy

Ignacio Farías

This research project concerns production processes in two areas of the creative economy, namely the visual arts and architecture. The study focuses on the socio-technical configuration of creative processes in artists' studios and architectural offices, in other words the interaction between human and non-human actors in the drafting, design, and production of new products (e.g. Becker 1984; Latour/Woolgar 1986). In addition, it explores the varied valuation regimes and evaluation practices with which the value of a product is defined and, in particular whether and how other valuation regimes are negotiated in the various stages of the production process (e.g. Boltanski/Thévenot 2006; Stark 2009). Hence, the project contributes to the definition of the role of certain cultural configurations (understood here in the broadest sense as a structure of socio-technical actor networks and valuation regimes) in the emergence of the new.

Based on an ethnographic study of artists' studios and architectural offices (spatially limited cultural configurations), the project also aims to trace the influence of the urban milieu (spatially fluid cultural configurations) on the emergence of new products, thereby contributing to a better understanding of the urban embedding/disembedding of cultural production (Armin/Thrift 2002).

The methodological approach used is based on three basic decisions: First, art and architecture were selected because they involve two very different configurations in the creative economy. Second, each sectoral study is based on a small number of case studies which will enable the examination of the production of products, the role of newness as a valuation regime, and the influence of the urban milieu primarily through the interplay of a total of six to eight artists' studios and architectural offices. Third, a city was selected for each sector: Berlin for art and Santiago de Chile for architecture. Both cities are characterized by the presence of a relatively large and young scene, which relishes experimentation and is artistically and creatively active. Experts and important actors are being interviewed on site to facilitate the reconstruction of the history, geography, and dynamics of these industries.

The data collection has already started in both locations. The preliminary systematization of the findings for both sectors is expected to be completed in 2011.

## **Project 1.2: Fora for new design practices: The transformation of concepts of work and production**

Maria Oppen

This project examines the role for design practices in the emergence of innovation. Experimental forms of collaboration between actors in a sector of the creative economy, namely product design, and other economic actors like providers, consumers or retailers of goods and services are being studied. The intention is to discover whether these interactions represent newness in the form of social innovation, and if so, which material and ideational features characterize them as new. Based on this analysis it will then be the task to identify the potential such collaboration represents for the generation and valuation of new solutions in systems of work and production of goods and services.

The design sector is particularly interesting for understanding cultural sources of newness for several reasons. First, there is growing recognition that design is an inherent factor of all economic activity, independently of whether it is provided by professional or by amateur designers or not at all handled explicitly (Bonsiepe 1996). Second, design-led innovation and user centred design are examples frequently cited in the worlds of politics and science as new forms of problem solving and knowledge generation (Simon 1982 [1969]; Cross 2001) growing out of the creative economy that could serve as a model for innovation in other areas (Scott 2006b; Potts et al. 2008).

The project takes a multiple case study approach based on interviews, the analysis of documents, and observation data. The selection of the units of analysis follows the “most dissimilar case design” that has been chosen for this exploratory research to provide a basis for generating hypotheses. Eight examples of “new” forms of collaboration in product design are being studied in a large and a small “creative city” in Germany (four in each location). Later, cases from the area of service design in Germany and Great Britain will be included to contrast the findings in manufacturing.

In order to identify “newness”, we start by looking at experiments, projects and longer lasting arrangements in the design sector that have gained the reputation of being new for example in the form of expert ratings, prizes or media reports. The next step involves making the emergence of newness empirically tangible by analysing the description of the new seen through the eyes of the participants in the collaborating ventures. The third step will be to reconstruct the attribution processes that lead to the designation of newness. Lastly, the relevance of the cultural features of space as sources of newness will be identified, whereby we envisage that they may either enable or impede its emergence. Space here is conceptualized as multilayered: in this research it comprises the forum as site of design practices, the city as the place where this site is situated and the domain as the sector of design.

### **Project 1.3: Creativity and the city. The role, effects, and forms of public-private coordination in urban development for the promotion of the creative industries**

Janet Merkel

Creativity is currently viewed as the new key resource of urban development. This is evidenced by a multitude of concepts, such as creative cities, the creative economy, and creative class, which are restructuring the current research discourse in relation to urban development and are being readily adopted by urban policy throughout the world (e.g. Florida 2004; Hartley 2005; Scott 2006a). Creativity is, however, a volatile resource which is linked to individuals and groups. Thus the question arises for cities as to how they can manage these resources, i.e. store creativity in their structures or develop structures, within which creativity can unfold. The current interest in creativity is based predominantly on the increasing economic relevance of symbolic and knowledge-based economies for urban economies and its potentials for the revitalization of inner city areas. For example, the various branches of the creative industries are identified by urban policy as a major “creativity resource pool”, which influences not only the development of the creative industries but also other economic sectors in the city. In addition they are said to be relevant for the social, political, and cultural development of the city. But, what do cities themselves contribute to the organization and development of the phenomena of creativity and the creative industries, e.g. what forms of coordination do they choose to support the sectors of the creative industries?

The research project addresses two central issues from an urban-sociological perspective: First, the relevance of local contexts of meaning, and the urban spatial condition for the emergence and unfolding of creativity (e.g. Meusbürger 2009). The question posed here is how can the urban environment influence and even hinder creative processes? And secondly, the role of new forms of governance in stimulating the promotion of creative industries. The project will examine the promotion of creativity through new forms of governance in the creative industries based on an embedded multi-case study in the two cities of Berlin and London. Different methods of qualitative empirical research are used to explore various forms of coordination between public and private actors in networks, round tables, and partnerships, for example. The variations in the promotion of the creative industries and the governance arrangements created for this purpose will be identified in a comparative approach. The aim of this research design is to explore the cities individual approach to creative industries support, the role of new governance forms and to draw some generalizations about the phenomenon of “creativity in cities”.

## Research field 2: Newness from small publics

### Project 2.1: Small social groupings and the emergence of newness

Sophie Mützel

This research project aims to elucidate how new ideas arise. Over the recent decades, research has been able to demonstrate clearly how ideas diffuse because of communication, networks, and institutional pressures. However, research results remain ambiguous as to how deviations from established ideas actually arise. The analytical perspective chosen for this project focuses on the role of small social groupings for the emergence of newness and, based on this, attempts to find further answers to the 'how' associated with this issue. Of interest here are social formations that arise out of direct social interactions as well as those that consist of cognitive relations (observations). Therefore, the structuralist view commonly taken to study formations such as "small worlds" and "collaborative circles" (e.g. Farell 2001; Uzzi/Spiro 2005) will be complemented by a perspective grounded in the sociology of culture: such intertwined groupings emerge both from social relationships as well as from attributed meanings and evaluations of the actors involved. The project scrutinizes this theoretical perspective using three different empirical cases.

The main research question is: How do such socially and culturally formed structures affect the emergence of new ideas, which deviate from established forms of doing and thinking and, in turn, have economic effects? The research contributes to theoretical discussions in economic sociology and network analysis by adding insights from a sociology of culture. At the same time, the project also contributes to current methodological debates on processual, dynamic analyses of particular social contexts, in which several actors interact simultaneously (e.g. Abbott 2001; Savage 2009).

Data collection consists of a compilation of ethnographical notes, qualitative interviews, and documentary analyses. In a first step, I analyze the stories of attributed evaluations to obtain explanatory descriptions and to indicate certain patterns (e.g. consolidations, ruptures) over time. In a second step, I apply network and sequence analytic methods to some of my qualitatively gathered data, in order to formally model the observed structured culture.

A first empirical case examines the emergence of new ideas in a telecommunications company. This ethnographically based field study will investigate different phases of exploration up to the transfer of a new idea to the project management. Constellations of different actors within the company come together in these phases, consult with experts and users from outside the company, and go through different states of tension involved in the emergence of newness. The second empirical case is an historical one and traces the attribution of a particular artistic style from its origins to its consolidation: i.e. the Ulmer Moderne ("Ulm modernism") as it developed across teachers and students at the Hochschule für Gestaltung (HfG Ulm, Ulm School of Design) from 1953 to 1968. The third empirical case looks at a social formation, which holds together by cognitive relations (observations) instead of direct interactions: the market for innovative breast cancer therapy research. This market does not yet have any marketable products in the usual sense; instead, on this market actors trade expectations about the future. Biotechnology and pharmaceutical companies, financial analysts as well as scientists provide economic narratives and evaluations in their press statements and reports about research strategies and thus collaboratively offer insights into their expectations. Initial findings on this social grouping show that the involved actors mobilize necessary financial resources through the narration of expectations

about the future (Mützel 2009). With such collaboratively developed stories on successes, failures, and future expectations, the involved actors shape deviations from established ideas, which in turn allow for innovations and shape the market's structure.

## **Project 2.2: Valorization alliances and agencies**

Lutz Marz

A new global industrial revolution will unfold in the 21st century as a result of climate change and the decreasing availability of fossil fuels. At the core of this revolution is an energy-technology paradigm shift involving a move away from fossil energy technologies to regenerative ones. This paradigm shift will also directly affect one of the mainstays of modern societies: automobility and all road-based passenger and goods traffic.

Three promising development paths have emerged in this field of innovation: the hydrogen combustion engine, the electric fuel-cell engine, and the electric battery-powered engine (Dierkes/Marz/Aigle 2009). We hypothesise that cultural configurations play a key role in the development and use of technical innovations. The "Valorization Alliances and Agencies" project aims to contribute to the identification and analysis of these cultural configurations and to specify problem-solving capacities that have received little or no attention up to now.

The three new types of engines represent radical innovations that will lead to fundamental changes in the modular area (engine) and/or at the systemic level (infrastructure). The project will study how such innovations arise or, indeed, fail to arise from various innovation-theory perspectives (Callon 1983; Knie et al. 1999), and it will draw in particular on the culturalist perspective offered by Boris Groys (Groys 1992). This permits the analysis of the three innovative engines as valorization processes, i.e. the processes by which technical discoveries and inventions come to be considered valuable in society.

Using a case study approach, this project examines how a valorization alliance succeeds in creating valorization agencies which facilitate, promote, and bundle technical innovation for a new type of engine. The case study is situated in a spatially and temporally defined empirical field, namely Germany in the period 1990–2010. Germany has many years of research and production tradition in all three technological fields, and is among the global leaders in research and development of alternative engine technologies. The period 1990–2010 has been chosen because it constitutes an exceptionally dynamic and contradictory development stage, in which the valorization processes and their effects feature particularly prominently.

Our initial studies indicate that valorization alliances play an important role in the valorization processes taking place in the development and establishment of alternative engines. A distinctive feature of the way in which these alliances work is the flexible combination of opening and closing processes. Furthermore, the alliances constantly create and institutionalize new valorization agencies through their varied networks, which perceptibly influence valorization processes in business, politics, science and the public realm. Our studies to date suggest that a distinctive fea-

ture of the different valorization agencies is a valorization management which has two complementary directions of effect: “revaluation-promoting” and “devaluation-blocking”. “Revaluation-blocking” is aimed at promoting the technical innovation processes through the creation of suitable forms of coordination, financing, and popularization. “Devaluation-blocking” aims to limit the power of the opponents of innovation and their alliances.

The aim of this project is to formulate plausible and robust hypotheses on the emergence and functioning of valorization alliances and valorization agencies that can also be tested empirically in other technical and social innovation fields.

### **Project 2.3: Scientization or socialization? The transformation of knowledge orders in Germany, Great Britain and the US**

Holger Straßheim

Current research shows that the modes of political expertise and knowledge production across countries are subject to multiple transformations (Fischer 2009; Power 1997; Weingart/Lentsch 2009). On the one hand, one can observe a scientization of public policy and an increasing relevance of statistics, evidence based policy and simulations. Instruments like monitoring or benchmarking transform different observations and make them comparable by calculative practices. On the other hand, science is being increasingly politicized by counter expertise and civil society pressure. Experts find themselves confronted with scepticism and public interference. More often than not, knowledge controversies lead to the establishment of counter-publics. These arenas of protest and bargaining constitute themselves along specific issues, risks and interests. They provide a forum for the interpretation, negotiation, assessment and justification of controversial knowledge (and non-knowledge). By using strategies of scandalising, self-presentation and campaigning in the media, civil society actors try to delegitimize scientifically accepted knowledge. Both tendencies can currently be observed, the scientization of society and the socialization of science.

Up to now there has been no comparative analysis of these changes. Based on qualitative as well as quantitative methods, the project therefore compares the causes and consequences of these transformations in three different countries. By turning to the concept of knowledge orders, we move away from a priori assumptions about the effectiveness or functionality of public policy advice. Instead, the question is posed how certain modes of expertise and practices of public knowledge production become to be perceived as reliable and how in a given society such knowledge claims are used as a basis for justifying collective choices. Knowledge orders are boundary crossing arrangements between science, politics and economics (Jasanoff 2005; Vogl 2004). They influence the production, circulation and objectification of publicly relevant knowledge by culturally established procedures and practices. Comparative studies have shown that countries like the US, Germany or Great Britain vary significantly in terms of expert styles, public accountability, cultures of objectivity, practices of participation and science-policy interaction. These specific insti-



tutional and cultural configurations also seem to influence the way a novelty or invention in public governance is being identified as relevant, worth to be preserved, valuable and thus innovative. The aim of the project is to identify convergences and divergences between knowledge orders in Great Britain, Germany, and the US. Focusing on major reforms in employment policy and consumer protection, mechanisms of change will be identified. Moreover, the consequences in terms of public communication on risks and non-knowledge will be explored. Conceptually, the project is based on discursive institutionalism (Schmidt 2008). It is assumed that transnational expert networks and transnational regimes have the potential to discursively delegitimize the cultural and institutional premises of political knowledge production and to stimulate the institutionalization of alternative coordination arrangements.

Starting in 2011, the project is funded for three years by the Volkswagen Foundation (funding initiative "Science, the Public, and Society"). It is carried out in cooperation with the Humboldt Universität zu Berlin (Department of Social Sciences, Research Area "Political Sociology and Social Policy").

### **Research field 3: Artistic effects on newness**

#### **Project 3.1: Artistic interventions in organizations**

Ariane Berthoin Antal

The speed and scope of change in society are stimulating decision makers in private and public sector organizations to seek new approaches to creating value – economically and societally. This search often entails trying out fresh ways of framing and responding to issues. In a growing number of these organizations stimuli are being sought from the arts by bringing in ideas, practices, and people from the world of theatre, music, painting, sculpture, dance, and literature, for example.

The research undertaken here is designed to analyze the conditions under which these artistic interventions in organizations serve as sources of newness. The research encompasses interventions involving diverse forms of arts and different time spans, levels of intensity and participation. The underlying assumption of practitioners is that bringing people, processes, and products from the "foreign culture" of the arts into the workplace helps to stimulate new ways of thinking and acting by irritating routines, challenging established mindsets, and developing new skills (Darsø 2004; see also Stark 2009). In such meetings with the artistic cultures, members of the organization become aware of the distinctive features of their language, perspectives, and practices, and have the opportunity to generate variations in ways of seeing and doing things from which to choose in future. An additional assumption that drives such projects in organizations is that artistic ways of knowing encompass aesthetic and emotional aspects that are generally overlooked at the workplace, and attending to them is expected to activate the senses and thereby help people to develop new ways of seeing and doing things (Carr/Hancock 2003; Guillet de Monthoux et al. 2007).

Very few empirical studies have been conducted to establish whether the high hopes placed on these interventions are justified. Instead, the literature on artistic interventions in organizations

is dominated by anecdotal evidence from practitioners (artists, consultants, managers), who generally tend to emphasize the positive experience that employees report during or immediately after such interventions. The longer term impacts and the possibly problematic impacts of such interventions have remained invisible. The purpose of research is therefore to understand:

- a) Under what conditions and how do the interventions of people, practices, and products from the arts in the workplace lead to new ways of seeing and doing things that become embedded as organizational learning?
- b) At which phases of learning processes are which kinds of artistic interventions considered most effective and sustainable by the different stakeholders?

In order to address these questions, the research will explore:

- c) How do the various participants define expectations and assess the value of artistic interventions? How do the different sources of judgment (arts, business, academia) play themselves out/interact/suspend in organizational settings? What is the relationship between expectation of effect and actual effect?

The theoretical framework for studying artistic interventions in organizations draws on several strands of thinking, in particular organizational learning (Argyris/Schön 1978; Dierkes et al. 2001), organizational aesthetics, and cross-cultural communication.

In contrast to the optimistic thinking predominating in publications about artistic interventions in organizations, the research undertaken here posits that many artistic interventions may not automatically stimulate strategically significant newness in the form of organizational learning. It is possible, but not inevitable, that artistic interventions generate modifications or variations in ways of seeing and doing things in the organization or they may leave no lasting trace. They might subvert established practices, or they may mask them and cement existing structures instead of addressing underlying issues.

A multipronged strategy is being pursued: (a) a data base of artistic interventions (projects, companies, providers) (b) case studies on completed and ongoing artistic interventions in several European countries, and experiments with artistic interventions to permit the exploration of potential new configurations (c) a series of “artful conversations” with the diverse stakeholders in order to collect and confront different perspectives on the interventions and criteria for assessing them (e.g. Berthoin Antal 2009).

### **Project 3.2: The co-evolution of economy and art**

Michael Hutter (assistant research: Nona Schulte-Römer)

How do different value systems interact? How does this mutual irritation trigger new ideas and their implementation, hence innovation, in its particular discursive context?

The project “Co-Evolution of Economy and Art” develops answers to these questions by examining instances of interdependence in case studies that deal with the relationship between visual art and the economy between the 15th century and the present. The case studies not only reveal the

effect of artistic events and artifacts on economic activities but also demonstrate how economic activities affect artistic forms. The modes of interdependence between the value systems vary from case to case, leading to an overarching interpretation that reaches beyond the particular historical situations.

The frame of investigation is culled from a social theory that assumes communication systems and their internal valuation processes as self-reproducing and self-sufficient entities in their specific societal environment (Luhmann 2007). In that respect they operate similarly to living organisms. For the emergence of living forms, irritations – disruptions as well as newly emerging connections – play a crucial part in facilitating evolution through variation. In a comparable manner, value systems – art communication, for instance – generate irritations in the observed system – the economy – thus leading to reactions, further communication and added commercial value.

### Six Case Studies

The cases were chosen on the basis of existing research that already suggests coherences (Baxandall 1972, Throsby 2001). Hence, the argument of the studies draws strongly on the competence of experts for the particular artistic genres and their historic socioeconomic contexts. Two case studies look at artistic inventions in the context of economic change, four cases focus on the influence of visual art on economic innovation.

Among the studies investigating the impact of economic context on new visual forms, the first one, “Artful Transactions” deals with six artworks from different epochs. It examines how differences in wealth distribution connected to specific patterns of consumption led to changes in the visual representation of purchasing acts. A second study, “Cheap Blues” traces the development of relative prices for artifacts in relation to the costs for input materials like color pigments, sound amplification or film exposure (Hutter 2008).

The second strand of investigation studies the impact of artistic invention on economic change. A first case (“Masaccio and the Consequences”) deals with macro-inventions, which are known and studied in the sciences. Comparably fundamental inventions took place in visual representation as well. This can be demonstrated by the diverse long-term effects of the invention of linear perspective on arts and crafts, architecture, horticulture and other trades. Another case (“Visual Credit”) starts from the difficulties incurred in the introduction of bank notes. In the 17th century, paper credit formed the basis for a new and promising economic system. Each banknote contained a number of visual authoritative symbols to grant its credibility (Hutter 2007).

A further debate springs from the argument that economic growth is rooted in dominant mental models accompanied by codes of conduct that emerge on the basis of individual choices (“Consuming Politeness”). This kind of impact can be observed in early 18th century England, where consumption was suddenly governed by taste rather than custom and morals. Research in this field widely attributes these new patterns of consumption to popular and intellectual literary sources like magazines, novels and essays. The case study, instead, traces the visual sources of consumption.

Finally, the category of exhaustible natural resources has been expanded to sources of knowledge and creativity. Besides education and scientific discovery, economic value is drawn from the vast arsenal of cultural heritage artifacts, and the finely spun network of artistic references. This artistic capital forms the subject matter of a final study on “Artworks as Sources and Resources”. Preliminary research is underway to extend the study to other forms of artistic expression, i.e. music, literature, and theatre.

### Project 3.3: Lighting for urban spaces – The redefinition of a design task

Nona Schulte-Römer

The doctoral project examines the cultural sources of urban lighting design in order to understand the influence of expert cultures and the significance of temporary lighting interventions for the planning of permanent lighting concepts in city spaces.

In the 21st century, lighting design is perceived more than ever as an issue of urban planning and as a suitable instrument in the global competition between cities. The diverse activities include light master planning, festivals, light façades, illuminated suburbs, and light art projects. Images of urban 'night scapes' advertise an urban lifestyle, attract media attention, promote a positive image as well as the so-called night economy.

These new opportunities in city planning result from three developments: First, technological innovations are opening up a new scope for economic as well as aesthetic decisions. Second, the emergence of lighting design marks the establishment of a new professional field. Third, the focus in urban design is shifting under the influence of environmental concerns and the sustainability discourse. These trends are accompanied by a shift in the evaluation and planning of urban lighting. Design strategies can no longer be reduced to the formula "more light!". Instead, there is a growing demand for better light, an elaborate distribution, the clear accentuation of light, and even less light.

As a result, many different kinds of experts and expertise now play a significant role in urban lighting strategies and the assessment of its effects. Planning, implementation, and evaluation are based on the expert knowledge of lighting designers, artists, and actors from industry, research and development. Their requirements are led by different, economic, political, or aesthetic objectives that feed into the urban planning process. This project explores the evaluation criteria, evidence, and models on which urban lighting design is based and which alter the nocturnal appearance of urban areas. The main questions to be investigated are: Which concepts are suitable for mediating the different interests of the actors involved? How do the requirements for lighting planners fit into urban development models? What evidence is produced by festivals of light and festive illuminations? What impact do spatial arrangements and urban environments have on the production of evidence (Gieryn 2002)? Do temporary lighting interventions play a role in the development and implementation of urban lighting concepts? (Schramm/Schwarte/Lazardzig 2006) How are the heterogeneous preferences and needs of recipients accommodated in the experts' concepts (Hasse 2007)?

The research project will focus on four lighting design interventions in two different cities. Frankfurt/Main and Lyon are currently being explored. The cases will include contrasts between permanent light master planning in everyday settings versus temporary light projects or festive illuminations. By integrating aesthetic considerations (Hirdina/Augsburger 2000) into the sociological analysis of expertise and lighting events (McQuire 2005), the project aims to contribute to a better understanding of urban lighting design processes and their socio-spatial relevance.

## D. Literature

- Abbott, Andrew (1997): On the Concept of Turning Point. In: *Comparative Social Research* 16, pp. 85-105.
- Abbott, Andrew (2001): *Time Matters. On Theory and Method*. Chicago: Chicago University Press.
- Abbott, Andrew (2004): *Methods of Discovery: Heuristics for the Social Sciences*. New York: WW Norton.
- Abbott, Andrew (2007): Mechanisms and Relations. In: *Sociologica*, 1 (2), <http://www.sociologica.mulino.it/doi/10.2383/24750> [07.09.2007].
- Alexander, Jeffrey C. (1990): Analytic Debates: Understanding the Relative Autonomy of Culture. In: Jeffrey C. Alexander/Steven Seidman (eds.), *Culture and Society: Contemporary Debates*. Cambridge: Cambridge University Press, pp. 1-27.
- Amin, Ash/Nigel Thrift (2002): *Cities. Reimagining the Urban*. Cambridge, Oxford: Polity.
- Argyris, Chris/Donald A. Schön (1978): *Organizational Learning: A Theory of Action Perspective*. Reading, MA: Addison-Wesley.
- Arrow, Kenneth J. (1962): Economic Welfare and the Allocation of Resources for Invention. In: Richard R. Nelson (ed.), *The Rate and Direction of Inventive Activity*. Princeton: Princeton University Press, pp. 609-625.
- Bachmann-Medick, Doris (2006): *Cultural Turns: Neuorientierungen in den Kulturwissenschaften*. Hamburg: Rowohlt Taschenbuch Verlag.
- Baecker, Dirk/Matthias Kettner/Dirk Rustemeyer (2008): *Über Kultur: Theorie und Praxis der Kulturreflexion*. Bielefeld: Transcript Verlag.
- Barry, Andrew (1999): Invention and Inertia. In: *Cambridge Anthropology* 21, pp. 62-70.
- Baxandall, Michael (1972): *Painting and Experience in Fifteenth Century Italy*. Oxford: Oxford University Press.
- Becker, Howard (1974): Art as Collective Action. In: *American Sociological Review* 39, pp. 767-776.
- Becker, Howard (1984): *Art Worlds*. Berkeley: University of California Press.
- Berking, Helmuth/Martina Löw (eds.) (2008): *Die Eigenlogik der Städte: Neue Wege für die Stadtforschung*. Frankfurt/Main: Campus.
- Berthoin Antal, Ariane (2009): Research Report: Research Framework for Evaluating the Effects of Artistic Interventions in Organizations. TILLT Europe: Göteborg
- Berthoin Antal, Ariane/Uwe Lenhardt/Rolf Rosenbrock (2001): Barriers to Organizational Learning. In: Meinolf Dierkes/Ariane Berthoin Antal/John Child/Ikujiro Nonaka (eds.), *Handbook of Organizational Learning and Knowledge*. Oxford: Oxford University Press, pp. 865-885.
- Bijker, Wiebe E./Thomas Hughes/Trevor Pinch (1989): *The Social Construction of Technological Systems*. Boston: MIT Press.
- Blättel-Mink, Birgit (2005): Kultur im Innovationsprozess. Does Culture Matter? In: Jens Adenhold/Rene John (eds.), *Innovation. Sozialwissenschaftliche Perspektiven*. Konstanz: UVK, pp. 79-96.
- Blättel-Mink, Birgit (2006): *Kompodium der Innovationsforschung*. Wiesbaden: VS Verlag.
- Böhme, Hartmut (1996): Vom Cultus zur Kultur(wissenschaft). Zur historischen Semantik des Kulturbegriffs. In: Renate Glaser/Matthias Luserke (eds.), *Literaturwissenschaft – Kulturwissenschaft. Positionen, Themen, Perspektiven*. Opladen: Westdeutscher Verlag, pp. 48-68.
- Boltanski, Luc/Laurent Thévenot (2006): *On Justification. Economies of Worth*. Princeton, Oxford: Princeton University Press.

- Bonsiepe, Gui (1996): *Interface: Design neu begreifen*. Mannheim: Bollmann Verlag.
- Bourdieu, Pierre (1982): *Die feinen Unterschiede: Kritik der gesellschaftlichen Urteilskraft*. Frankfurt/Main: Suhrkamp.
- Braczyk, Hans-Joachim/Philip N. Cooke/Martin Heidenreich (1998): *Regional Innovation Systems: The Role of Governances in a Globalized World*. London: UCL Press.
- Braun-Thürmann, Holger (2005): *Innovation*. Bielefeld: transcript Verlag.
- Brown, John Seely/Paul Duguid (1991): *Organizational Learning and Communities-of-Practice: Toward a Unified View of Working, Learning, and Innovation*. In: *Organization Science* 2, pp. 40-57.
- Callon, Michel (1983): *Die Kreation einer Technik. Der Kampf um das Elektroauto*. In: Werner Rammert/Gotthard Bechmann/Helga Nowotny (eds.), *Technik und Gesellschaft. Jahrbuch 2*. Frankfurt/Main: Campus, pp. 140-160.
- Callon, Michel (1986): *The Sociology of an Actor-Network: The Case of the Electric Vehicle*. In: Michel Callon/John Law/Arie Rip (eds.), *Mapping the Dynamics of Science and Technology: Sociology of Science in the Real World*. Basingstoke: Macmillan Press, pp. 19-34.
- Callon, Michel (1989): *Society in the Making: The Study of Technology as a Tool for Sociological Analysis*. In: Wiebe E. Bijker/Thomas Hughes/Trevor Pinch (eds.), *The Social Construction of Technological Systems*. Boston: MIT Press, pp. 83-103.
- Carr, Adrian/Philip Hancock (eds.) (2003): *Art and Aesthetics at Work*. Basingstoke: Palgrave Macmillan.
- Cohen, Wesley/Daniel Levinthal (1990): *Absorptive Capacity: A New Perspective on Learning and Innovation*. In: *Administrative Science Quarterly* 35, pp. 128-152.
- Cross, Nigel (2001): *Designerly Ways of Knowing: Design Discipline Versus Design Science*. In: *Design Issues* 17, pp. 49-55.
- Darsø, Lotte (2004): *Artful Creation. Learning-Tales of Arts-In-Business*. Frederiksberg, DK: Samfundslitteratur.
- Dierkes, Meinolf (ed.) (1997): *Technikgenese. Befunde aus einem Forschungsprogramm*. Berlin: edition sigma.
- Dierkes, Meinolf/Ariane Berthoin Antal/John Child/Ikujiro Nonaka (2001): *Handbook of Organizational Learning and Knowledge*. Oxford: Oxford University Press.
- Dierkes, Meinolf/Lutz Marz/Thomas Aigle (2009): *Die automobile Wende. Analyse einer Innovationslandschaft*. In: Reinhold Popp/Elmar Schüll (eds.), *Zukunftsforschung und Zukunftsgestaltung: Beiträge aus Wissenschaft und Praxis*. Berlin, Heidelberg: Springer, pp. 323-340.
- Dierkes, Meinolf/Lutz von Rosenstiel/Ulrich Steger (1993): *Unternehmenskultur in Theorie und Praxis*. Frankfurt/Main: Campus.
- Dosi, Giovanni (1988): *The Nature of the Innovative Process*. In: Giovanni Dosi/Christopher Freeman/Richard Nelson/Gerald Silverberg/Luc Soete (eds.), *Technical Change and Economic Theory*. London: Francis Pinter, pp. 221-238.
- Eagleton, Terry (2000): *The Idea of Culture*. Malden, MA: Blackwell Publishing.
- Esposito, Elena/Alessandra Corti (2002): *Soziales Vergessen. Formen und Medien des Gedächtnisses der Gesellschaft*. Frankfurt/Main: Suhrkamp.
- Fagerberg, Jan/Bart Verspagen (2009): *Innovation Studies --The Emerging Structure of a New Scientific Field*. In: *Research Policy* 38, pp. 218-233.
- Farías, Ignacio (2009): *On Newness, Assemblages and the Creative Economy*. Goldsmiths Winter Workshop on Economic Sociology. Goldsmiths College, London.

- Farrell, Michael P. (2001): *Collaborative Circles: Friendship Dynamics & Creative Work*. Chicago: University of Chicago Press.
- Fischer, Frank (2009): *Democracy & Expertise. Reorienting Policy Inquiry*. Oxford: Oxford University Press.
- Florida, Richard (2004): *The Rise of the Creative Class*. New York: Basic Books
- Freeman, Christopher (1995): The 'National System of Innovation' in Historical Perspective. In: *Cambridge Journal of Economics* 19, pp. 5-24.
- Garud, Raghu/Peter Karnoe (2003): Bricolage versus Breakthrough: Distributed and Embedded Agency in Technology Entrepreneurship. In: *Research Policy* 32, pp. 277-300.
- Geertz, Clifford (1973): Thick Description: Toward an Interpretive Theory of Culture. In: Clifford Geertz (ed.), *The Interpretation of Cultures*. New York: Basic Books, pp. 3-30.
- Gieryn, Thomas F. (2002): Three Truth-Spots. In: *Journal of the History of the Behavioral Sciences* 38, pp. 113-132.
- Groys, Boris (1992): *Über das Neue. Versuch einer Kulturökonomie*. München: Carl Hanser Verlag.
- Guillet de Monthoux, Pierre/Claes Gustafsson/Sven-Erik Sjöstrand (eds.) (2007): *Aesthetic Leadership: Managing Fields of Flow in Art and Business*. New York: Palgrave Macmillan.
- Günther, Gotthard (1971): Die historische Kategorie des Neuen. In: Wilhelm R. Beyer (ed.), *Hegel-Jahrbuch 1970*. Meisenheim am Glan: Anton Hain, pp. 34-61.
- Halffman, Willem (2009): Measuring the Stakes: The Dutch Planning Bureaus. In: Peter Weingart/Justus Lentsch (eds.), *Scientific Advice to Policy Making: International Comparison*. Opladen: Barbara Budrich, pp. 41-65.
- Hannerz, Ulf (1992): *Cultural Complexity: Studies in the Social Organization of Meaning*. New York: Columbia University Press.
- Hartley, John (2005): *Creative Industries*. Malden, MA: Blackwell Publishing.
- Hasse, Jürgen (ed.) (2007): *Stadt im Licht. Die Alte Stadt. Vierteljahreszeitschrift für Stadtgeschichte, Stadtsoziologie, Denkmalpflege und Stadtentwicklung* 34. Stuttgart: BAG-Verlag.
- Hennion, Antoine (2001): Music Lovers: Taste as Performance. In: *Theory, Culture & Society* 18, pp. 1-22.
- Hennion, Antoine (2007): Those Things That Hold Us Together: Taste and Sociology. In: *Cultural Sociology* 1, pp. 97-114.
- Hirdina, Karin/Janis Augsburg (eds.) (2000): *Schönes gefährliches Licht. Studien zu einem kulturellen Phänomen*. Stuttgart: Ibidem.
- Hofmann, Jeanette (1996): Vorstellungen und Bilder in der Technikerzeugung: Eine Episode aus der Biographie des schreibenden Computers. In: Hans-Dieter Hellige (ed.), *Technikleitbilder auf dem Prüfstand. Leitbild-Assessment aus Sicht der Informatik und Computergeschichte*. Berlin: edition sigma, pp. 161-184.
- Hofstede, Geert (1984): *Culture's Consequences: International Differences in Work-Related Values*. Thousand Oaks: Sage.
- Hughes, Robert (1971): *The Shock of the New*. New York: Alfred A. Knopf.
- Hutter, Michael (2006): *Neue Medienökonomik*. München: Fink-Verlag.
- Hutter, Michael (2007): Visual Credit: The Britannia Vignette on the Notes of the Bank of England. In: Fiona Cox/Hans W. Schmidt-Hannisa (eds.), *Money and Culture*. Frankfurt/Main: Peter Lang, pp. 15-36.

- Hutter, Michael (2008): Creating Artistic from Economic Value: Changing Input Prices and New Art Forms. In: Michael Hutter/David Throsby (eds.), *Beyond Price. Value in Culture, Economics and the Arts*. New York: Cambridge University Press, pp. 60-72.
- Jasanoff, Sheila (2005): *Designs on Nature: Science and Democracy in Europe and the United States*. Princeton, NJ: Princeton University Press.
- Jones, Eric (1987): *The European Miracle. Environments, Economies and Geopolitics in the History of Europe and Asia*. Cambridge: Cambridge University Press.
- Jones, Eric (2000): *Growth Recurring. Economic Change in World History*. Ann Arbor: University of Michigan Press.
- Kaufman, Jason (2004): Endogenous Explanation in the Sociology of Culture. In: *Annual Review of Sociology* 30, pp. 335-357.
- Kirchhoff, Bruce A./Steven T. Walsh (2000): Entrepreneurship's Role in Commercialization of Disruptive Technologies. In: Emil A. Brauchlin/Johann H. Pichler (eds.), *Unternehmer und Unternehmensperspektiven für Klein- und Mittelunternehmen: Festschrift für Hans Jobst Pleitner*. Berlin: Duncker & Humblot, pp. 323-331.
- Knie, Andreas/Otto Berthold/Sylvia Harms/Bernhard Truffer (1999): *Die Neuerfindung urbaner Automobilität. Elektroautos und ihr Gebrauch in den USA und Europa*. Berlin: edition sigma.
- Knorr Cetina, Karin (1999): *Epistemic Cultures. How the Sciences Make Knowledge*. Cambridge, MA: Harvard University Press.
- Lamont, Michele/Virag Molnar (2002): The Study of Boundaries in the Social Sciences. In: *Annual Review of Sociology* 28, pp. 167-195.
- Latour, Bruno (1988): Mixing Humans and Nonhumans Together: The Sociology of a Door-Closer. In: *Social Problems* 35, pp. 298-310.
- Latour, Bruno (1996): *Aramis, or, The Love of Technology*. Cambridge, MA: Harvard University Press.
- Latour, Bruno (2005): *Reassembling the Social: An Introduction to Actor-Network-Theory*. New York: Oxford University Press.
- Latour, Bruno/Steve Woolgar (1986): *Laboratory Life: The Construction of Scientific Facts*. Princeton: Princeton University Press.
- Law, John/John Urry (2004): Enacting the Social. In: *Economy and Society* 33, pp. 340-410.
- Lijphart, Arend (1975): The Comparable-Cases Strategy in Comparative Research. In: *Comparative Political Studies* 8, pp. 158-177.
- Löw, Martina (2008): *Soziologie der Städte*. Frankfurt/Main: Suhrkamp.
- Luhmann, Niklas (1999a) [1995]: Kultur als historischer Begriff. In: *ibid.*, *Gesellschaftsstruktur und Semantik: Studien zur Wissenssoziologie der modernen Gesellschaft*, Bd. 4. Frankfurt/Main: Suhrkamp, pp. 31-54.
- Luhmann, Niklas (1999b) [1995]: Die Behandlung von Irritationen: Abweichung oder Neuheit? In: *ibid.*, *Gesellschaftsstruktur und Semantik: Studien zur Wissenssoziologie der modernen Gesellschaft*, Bd. 4. Frankfurt/Main: Suhrkamp, pp. 55-100.
- Luhmann, Niklas (2007): *Die Gesellschaft der Gesellschaft*. Frankfurt/Main: Suhrkamp.
- Macho, Thomas (2008): Tiere zweiter Ordnung. Kulturtechniken der Identität und Identifikation. In: Dirk Baecker/Matthias Kettner/Dirk Rustemeyer (eds.), *Über Kultur. Theorie und Praxis der Kulturreflexion*. Bielefeld: Transcript Verlag, pp. 99-119.
- Mayntz, Renate (1997): *Soziale Dynamik und politische Steuerung*. Frankfurt/Main: Campus.



- Mayntz, Renate (2002): Zur Theoriefähigkeit makro-sozialer Analysen. In: Renate Mayntz (ed.), Akteure – Mechanismen – Modelle. Zur Theoriefähigkeit makro-sozialer Analysen. Frankfurt/Main: Campus, pp. 7-43.
- McQuire, Scott (2005): Immaterial Architectures: Urban Space and Electric Light. In: Space and Culture 8, pp. 126-140.
- Meusburger, Peter (2009): Milieus of Creativity: The Role of Places, Environments, and Spatial Contexts. In: Peter Meusburger/Joachim Funke/Edgar Wunder (eds.), Milieus of Creativity. An Interdisciplinary Approach to Spatiality of Creativity. Berlin: Springer, pp. 97-153.
- Müller, Hans-Peter (1994): Kultur und Gesellschaft. Auf dem Weg zu einer neuen Kulturosoziologie? In: Berliner Journal für Soziologie 4, pp. 135-154.
- Mützel, Sophie (2009): Koordinierung von Märkten durch narrativen Wettbewerb. In: Jens Beckert/Christoph Deutschmann (eds.), Wirtschaftssoziologie. 49. Sonderheft der KZfSS. Wiesbaden: VS Verlag, pp. 87-106.
- Nelson, Richard R. (1993): National Innovation Systems: A Comparative Study. Oxford: Oxford University Press.
- OECD (2002): Dynamising National Innovation Systems. Paris: OECD.
- Parsons, Talcott/Edward A. Shils (eds.) (1951): Toward a General Theory of Action. Cambridge, MA: Harvard University Press.
- Peterson, Richard A. (1976): The Production of Culture: A Prolegomenon. In: American Behavioral Scientist 19, pp. 669-684.
- Peterson, Richard A./Narasimhan Anand (2004): The Production of Culture Perspective. In: Annual Review of Sociology 30, pp. 311-334.
- Potts, Jason/Stuart Cunningham/John Hartley/Paul Ormerod (2008): Social Network Markets: A New Definition of the Creative Industries. In: Journal of Cultural Economics 32, pp. 167-185.
- Powell, Walter W./Kenneth W. Koput/Laurel Smith-Doerr (1996): Interorganizational Collaboration and the Locus of Innovation: Networks of Learning in Biotechnology. In: Administrative Science Quarterly 41, pp. 116-145.
- Power, Michael (1997): The Audit Society. Rituals of Verification. Oxford: Oxford University Press.
- Prigogine, Ilya (1997): The End of Certainty. Time, Chaos, and the New Laws of Nature. New York: The Free Press.
- Rammert, Werner (1993): Technik aus soziologischer Perspektive. Forschungsstand, Theorieansätze, Fallbeispiele. Ein Überblick. Opladen: Westdeutscher Verlag.
- Rammert, Werner (2000): Technik aus soziologischer Perspektive 2: Kultur, Innovation, Virtualität. Wiesbaden: Westdeutscher Verlag.
- Reckwitz, Andreas (2008): Unscharfe Grenzen. Perspektiven der Kulturosoziologie. Bielefeld: Transcript Verlag.
- Roberts, Edward B. (1987): Introduction: Managing Technological Innovation – A Search for Generalizations. In: Edward B. Roberts (ed.), Generating Technological Innovation. Oxford: Oxford University Press, pp. 3-21.
- Rogers, Everett M. (1995): Diffusion of Innovations. New York: Free Press.
- Savage, Mike (2009): Contemporary Sociology and the Challenge of Descriptive Assemblage. In: European Journal of Social Theory 12, pp. 155-174.
- Savage, Mike/Roger Burrows (2007): The Coming Crisis of Empirical Sociology. In: Sociology 41, pp. 885-899.

- Saxenian, AnnaLee (1991): The Origins and Dynamics of Production Networks in Silicon Valley. In: *Research Policy* 20, pp. 423–437.
- Saxenian, AnnaLee (1994): *Regional Advantage: Culture and Competition in Silicon Valley and Route 128*. Cambridge, MA: Harvard University Press.
- Schmidt, Vivien A. (2008): Discursive Institutionalism: The Explanatory Power of Ideas and Discourse. In: *Annual Review of Political Science* 11, pp. 303–236.
- Schmookler, Jacob (1966): *Invention and Economic Growth*. Cambridge, MA: Harvard University Press.
- Schramm, Helmar/Ludger Schwarte/Jan Lazardzig (eds.) (2006): *Spektakuläre Experimente. Praktiken der Evidenzproduktion im 17. Jahrhundert*. *Theatrum Scientiarum*. Berlin: Walter de Gruyter.
- Schummer, Joachim (forthcoming): On the Novelty of Nanotechnology: A Philosophical Essay. In: Anthony Mark Cutter/Bert Gordijn (eds.), *In Pursuit of Nanoethics. Transatlantic Reflections on Nanotechnology*. Dordrecht: Springer.
- Schumpeter, Joseph Alois (1939): *Business Cycles: A Theoretical, Historical, and Statistical Analysis of the Capitalist Process*. New York: McGraw-Hill.
- Schumpeter, Joseph Alois (1942): *Capitalism, Socialism and Democracy*. New York: Harper & Brothers.
- Schumpeter, Joseph Alois (2006): *Theorie der wirtschaftlichen Entwicklung*. Berlin: Duncker & Humblot.
- Scott, Allen J. (2006a): Creative Cities: Conceptual Issues and Policy Questions. In: *Journal of Urban Affairs* 28, pp. 1–17.
- Scott, Allen J. (2006b): Entrepreneurship, Innovation and Industrial Development: Geography and the Creative Field Revisited. In: *Small Business Economics* 26, pp. 1–24.
- Sewell Jr., William H. (2005): The Concept(s) of Culture. In: Gabrielle Spiegel (ed.), *Practicing History: New Directions in Historical Writing after the Linguistic Turn*. London: Routledge, pp. 76–95.
- Simon, Herbert Alexander (1982 (2) [1969]): *The Sciences of the Artificial*. Cambridge, MA: The MIT Press
- Stake, Robert E. (1978): The Case Study Method in Social Inquiry. In: *Educational Researcher* 7, pp. 5–8.
- Stark, David (2009): *The Sense of Dissonance: Accounts of Worth in Economic Life*. Princeton: Princeton University Press.
- Stone, Diane (2004): Transfer Agents and Global Networks in the ‘Transnationalization’ of Policy. In: *Journal of European Public Policy* 11, pp. 545–566.
- Suchman, Lucy/Endre Danyi/Laura Watts (2008): *Relocating Innovation: Places and Material Practices of Future-Making*. Forschungsprogramm 2008–2010. The Leverhulme Trust, [http://www.sand14.com/relocatinginnovation/download/RelocatingInnovation\\_ResearchDescription.pdf](http://www.sand14.com/relocatinginnovation/download/RelocatingInnovation_ResearchDescription.pdf) [02.02.2010].
- Swidler, Ann (1986): Culture in Action: Symbols and Strategies. In: *American Sociological Review* 51, pp. 273–286.
- Thompson, Michael (1979): *Rubbish Theory. The Creation and Destruction of Value*. Oxford: Oxford University Press.
- Throsby, David (2001): *Economics and Culture*. Cambridge: Cambridge University Press.

- Uzzi, Brian/Jarrett Spiro (2005): Collaboration and Creativity: The Small World Problem. In: American Journal of Sociology 111, pp. 447-504.
- Van de Ven, Andrew H. (2009): Innovation. In: Cary L. Cooper (ed.), The Blackwell Encyclopedia of Management. Blackwell Reference Online: Blackwell Publishing, <http://www.blackwellreference.com/> [03.03.2010].
- Vogl, Joseph (2004): Kalkül und Leidenschaft. Poetik des ökonomischen Menschen. Zürich/Berlin: diaphanes.
- Weingart, Peter/Justus Lentsch (2009): Scientific Advice to Policy Making: International Comparison. Opladen: Barbara Budrich.
- White, Harrison C./Cynthia A. White (1965): Canvases and Careers: Institutional Change in the French Painting World. New York: Wiley.
- Wimmer, Andreas (1996): Kultur. Zur Reformulierung eines sozialanthropologischen Grundbegriffs. In: Kölner Zeitschrift für Soziologie und Sozialpsychologie 48, pp. 401-425.
- Wimmer, Andreas (2008): The Making and Unmaking of Ethnic Boundaries: A Multilevel Process Theory. In: American Journal of Sociology 113, pp. 970-1022.
- Yin, Robert K. (1994): Case Study Research: Design and Methods. 2. Auflage. Thousand Oaks: Sage.
- Zapf, Wolfgang (1989): Über soziale Innovationen. In: Soziale Welt 40, pp. 170-183.

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